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THE

NATIONAL GEOGRAPHIC MAGAZINE

DISCOVERERS OF AMERICA

ANNUAL ADDRESS BY THE PRESIDENT

HON GARDINER G. HUBBARD

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CLAUDIUS PTOLEMY MAP, CIRCA 150.

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(*Presented before the Society January 13, 1893*)

It is appropriate that we should take as the theme of our annual address for the year 1892 the discoverers of America.

The discovery of America was the work, not of one explorer but of many, carried on during a long series of years, beginning with the Northmen, continued by Columbus, Vespucius, Magellan and Drake, and ending only with the nineteenth century.

Before we speak of the discoverers let us hastily review the condition of the old world prior to the discovery of the new.

Two thousand years ago philosophers generally believed the world to be round, and the most noted of ancient geographers, Eratosthenes, computed its circumference at 25,200 geographic miles. The true figure is 21,600 geographic miles or 24,899 English miles.

Ptolemy, two hundred years later, estimated it at 18,000 geographic miles, and made a series of twenty-six maps, showing the the equator and the zones north of the equator, with parallels of latitude and meridians of longitude. As his base-line was too short and his knowledge of places was generally derived only

from seamen who had no accurate means of determining distances, his maps, though showing most of the countries of Europe, Asia and northern Africa (plate 1*), were inaccurate and unreliable, though vastly superior to those of a later date. These maps were either entirely lost sight of or so changed by the pictorial extravagances of the map-makers of succeeding ages as to be of little value (plates 2† and 4).

St Augustine, Thomas Aquinas and other fathers of the church believed the earth to be a vast plain. They said with Isaiah, that the heaven which embraces the universe is a vault; with Job, that it is joined to the earth; and with Moses, that the length of the earth is greater than the breadth. This they insisted was the teaching of the word of God and must be accepted. Those who believed that the world might be round declared that there could be no inhabitants on the other side, for that Christ said "All tribes of the earth shall see the Son of Man coming in the clouds of heaven with power and great glory."

The famous bull of Alexander VI, published in 1493, which gave all newly discovered land one hundred leagues west of the Azores to the Spaniards and all east of that line‡ to Portugal, implied that the earth was a plain.

For 1,500 years science and the church were in opposition as to the shape of the earth, and there were very few, whatever might be their convictions, who dared question the infallibility of the church. Thus all progress in natural science was checked, and geography and map-making practically ceased to exist.

Early in the fourteenth century Marco Polo's book of travels appeared. This greatly increased geographic knowledge and had a direct and strong bearing on the discovery of America.

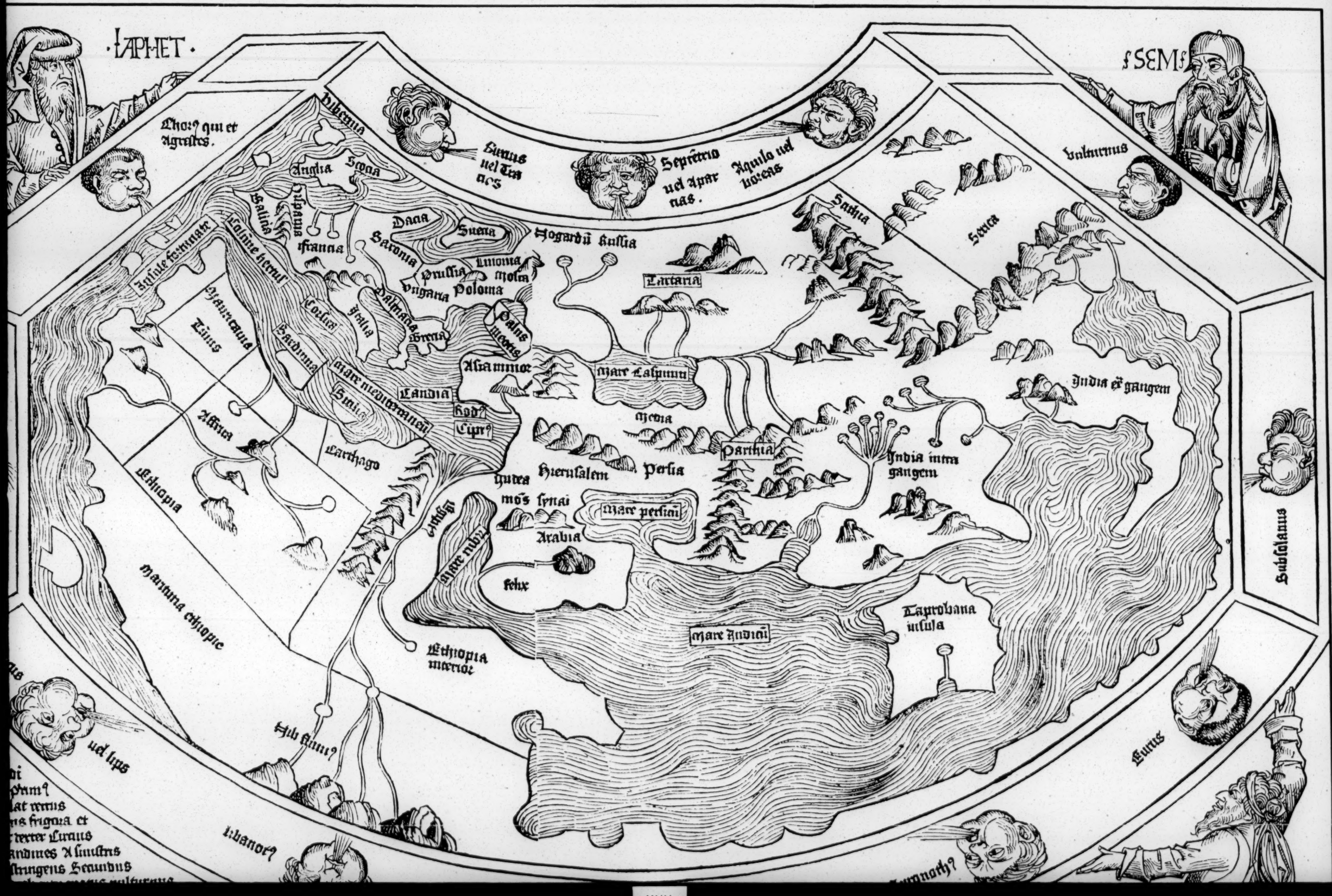
In the preceding century the father and uncle of Marco Polo, merchants of Venice, made two journeys to the court of the great Khan Kublai, in eastern China. On the second journey Marco Polo accompanied his father and uncle. They went by Persia, over the Pamir mountains, through Turkestan, across the great desert of Gobi, and through Mongolia to China. There they resided for many years, sent by the Khan on several missions and

*Claudius Ptolemy's map of the world (circa A D 150), forming the accompanying plate 1, is reproduced from "The Discovery of America," by John Fiske, 1892, vol. i, p. 263.

†Photolithographed directly from the "Chronicon Nurembergense" (auctore Hartman Schedel), 1493, fol. xiii.

‡Shown in the Juan de la Cosa map, plate 4.

Secunda etas mundi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·SEM·
Chori qui et agricolæ.
Hibernia
Anglia
Scota
Saxonia
Gallia
Germania
Dacia
Suecia
Hogardi Russia
Lituania
Polonia
Prussia
Livonia
Pomerania
Alpes montes
Italia
Dalmatia
Graecia
Sardinia
Corsica
Gallia Narbonensis
Pyrenaeus Mons
Insule fortunate
Mare Mediterraneum
Asia minor
Mare Caspium
Media
Parthia
Persia
Hierusalem
Iudea
Mons Sinai
Arabia
Mare Rubrum
Felix
Mare Persicum
Ethiopia
Africa
Carthago
Mauritania Ethiopie
Ethiopia interior
Mare Indicum
Taprobana insula
India intra gangem
India ex gangem
Sarmatia
Scythia
Volturnus
Boreas vel Thra cias
Septentrio vel Aparctias
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Subsolanus
Auster
Libanor?
Sub Auster?
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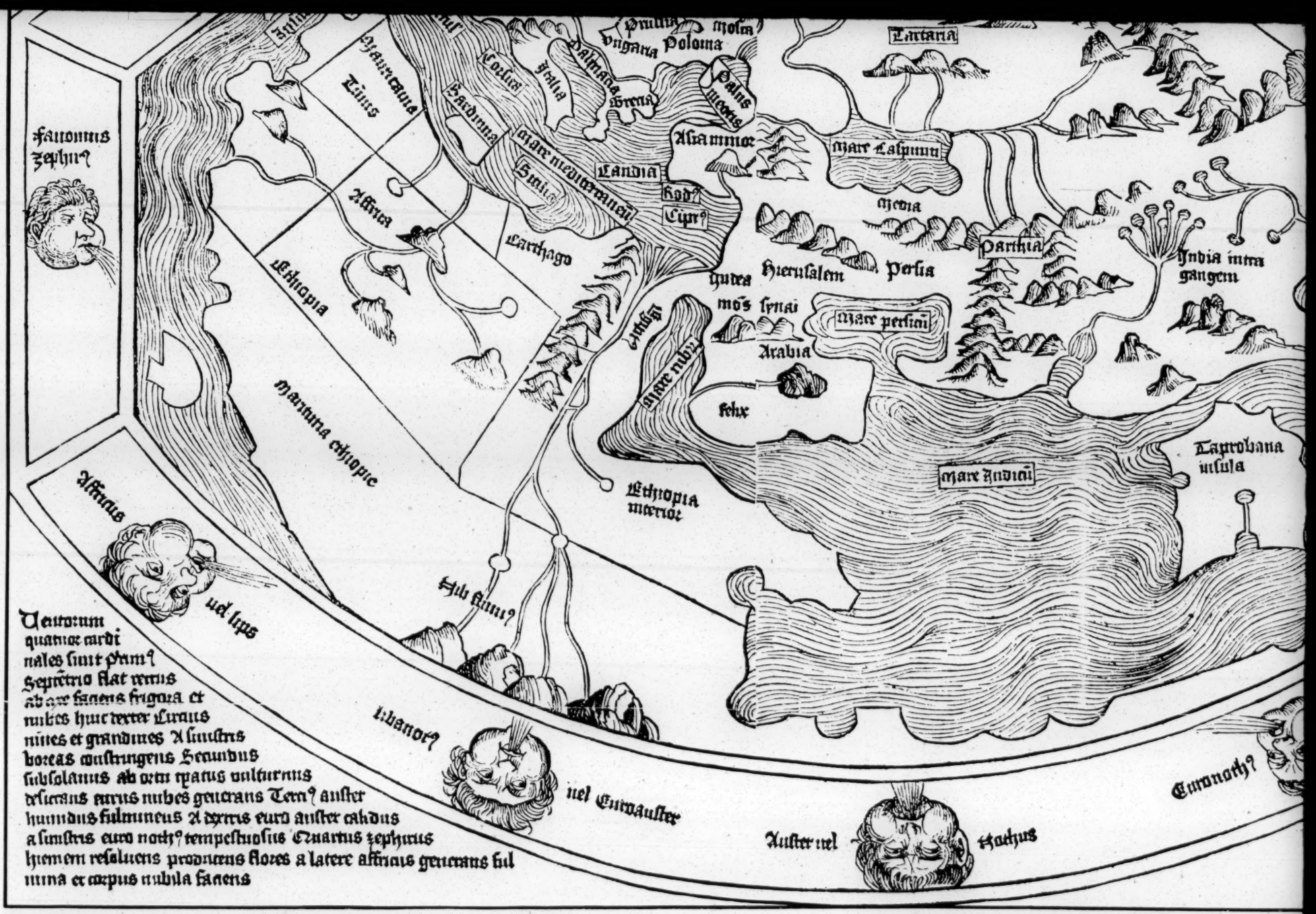
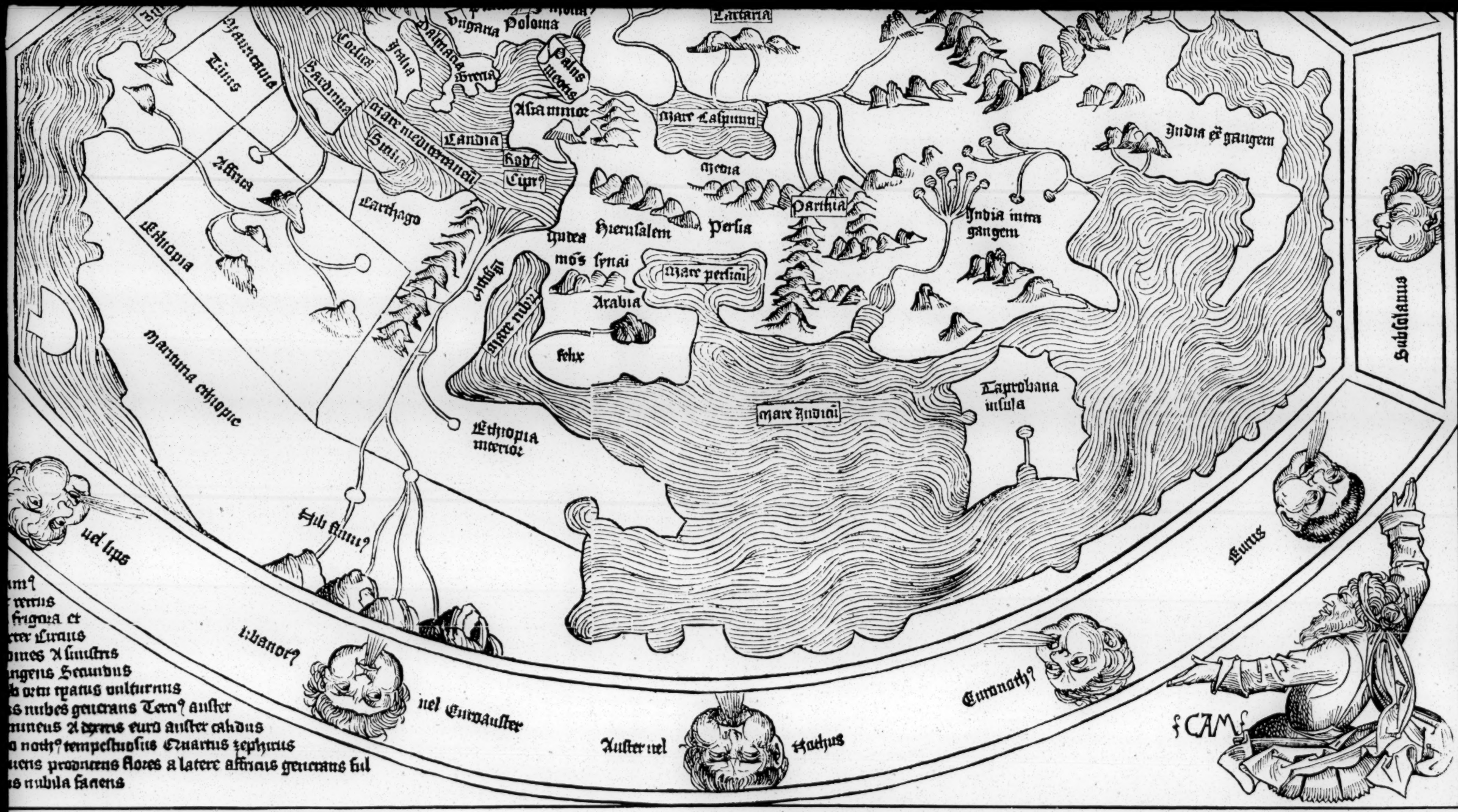


ORbis dicitur a rota ⁊ est ꝗlibet figura sperica ⁊ rotunda. Et ideo mūd⁹ orbis dr. qz rotūd⁹ ē: ⁊ dr orb terre vl orbis terra rū. Dicūr ät ꝑm vincē. filij sem obtinuisse asiā. filij chā affricā ⁊ filij iaphet europā. Jsiō. in li. Ethy. asserit qz orbis diuisus ē in tres partes ꝑ nō eqliter. Nā asia a meridie p orientem vsqz ad septētrionem puenit. Europa vo a septētrione vsqz ad occidentē pingit. Sed affrica ad occidentem p meridiez se extendit. Sola quoqz Asia continet vnam partem nostre habitabilis. s. medietatem sunt sortite. Inter has autem partes ab occeano mare in duas partes orientis ⁊ occidentis orbem diuidas diuiserunt post diluuiū filij Noe: inter quos Sem cum cam possederunt. vt dicit glo. super Gen. x. ⁊ super Orosius ⁊ Plinius.



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sunt sortite. Inter has autem partes ab occeano mare magnū progreditur. easqz intersecat: quapropter si
in duas partes orientis ⁊ occidentis orbem diuidas in vna erit asia in alia vo affrica ⁊ europa. Sic autem
diuiserunt post diluuiū filij Noe: inter quos Sem cum posteritate sua asiam. Japhet europam: cham affri
cam possederunt. vt dicit glo. super Gen. x. ⁊ super libro Paralippo. primo. Idem dicit Crisostomus Isi
dorus ⁊ Plinius.

CHRONICON NUREMBERGENSE MAP 1493.

occupying important positions. On their return they sailed through the China sea and Indian ocean to India, stopping at the Philippine and Spice islands, Sumatra and Ceylon; from India they traveled by land through Persia and Asia Minor, and by the Black and Mediterranean seas to Venice. Soon after his return Marco Polo was taken prisoner by the Genoese, and during his captivity wrote an accurate description of the countries through which he traveled and in which he had lived so many years, and of the island of Cipango or Japan, with its inexhaustible riches of gold and pearls, 500 miles east of China. He also described the voyages of the Chinese to the islands of the Pacific, to Ceylon, and to India, and of the rich trade carried on by the Mohammedans between the Spice islands, India and the Mediterranean. These travels became gradually known to geographers, and in the fifteenth century gave a new impulse to geographic study.

About the same time the old maps of Ptolemy, which had been hopelessly obscured by the graphic fancies of the cosmographers of the dark ages, were, with his writings, brought from the East to Italy. The maps of the dark ages showed the Mediterranean and the countries around it, Arabia, Persia, Media, Gog and Magog, and a little of northern Africa; but so vaguely and incorrectly that today one would scarcely recognize these countries on existing maps.

Toscanelli, an Italian, prepared a map about 1474, taking the travels of Marco Polo as his guide. On other maps Cathay, or China, had been delineated as east of Europe; Toscanelli's transferred it to the west. His map shows the Atlantic ocean, Cipango 100° west of Europe, and still further westward, Cathay. He sent a copy of this map to the king of Portugal, and subsequently another to Columbus, urging him to make his contemplated voyage to "The land where the spices are born, where the temples and royal palaces are covered with planks of gold" (plate 3*).

Let us consider the condition of Europe at the time of the voyages of the Northmen to America, and the great changes which were gradually preparing the way for the colonization of America.

For nearly one thousand years B C the ships of Tyre and Sidon, Alexandria and Greece, sailed through the Mediterranean into the Atlantic ocean as far as Britain. The early sailors were more adventurous and their ships more seaworthy than those of

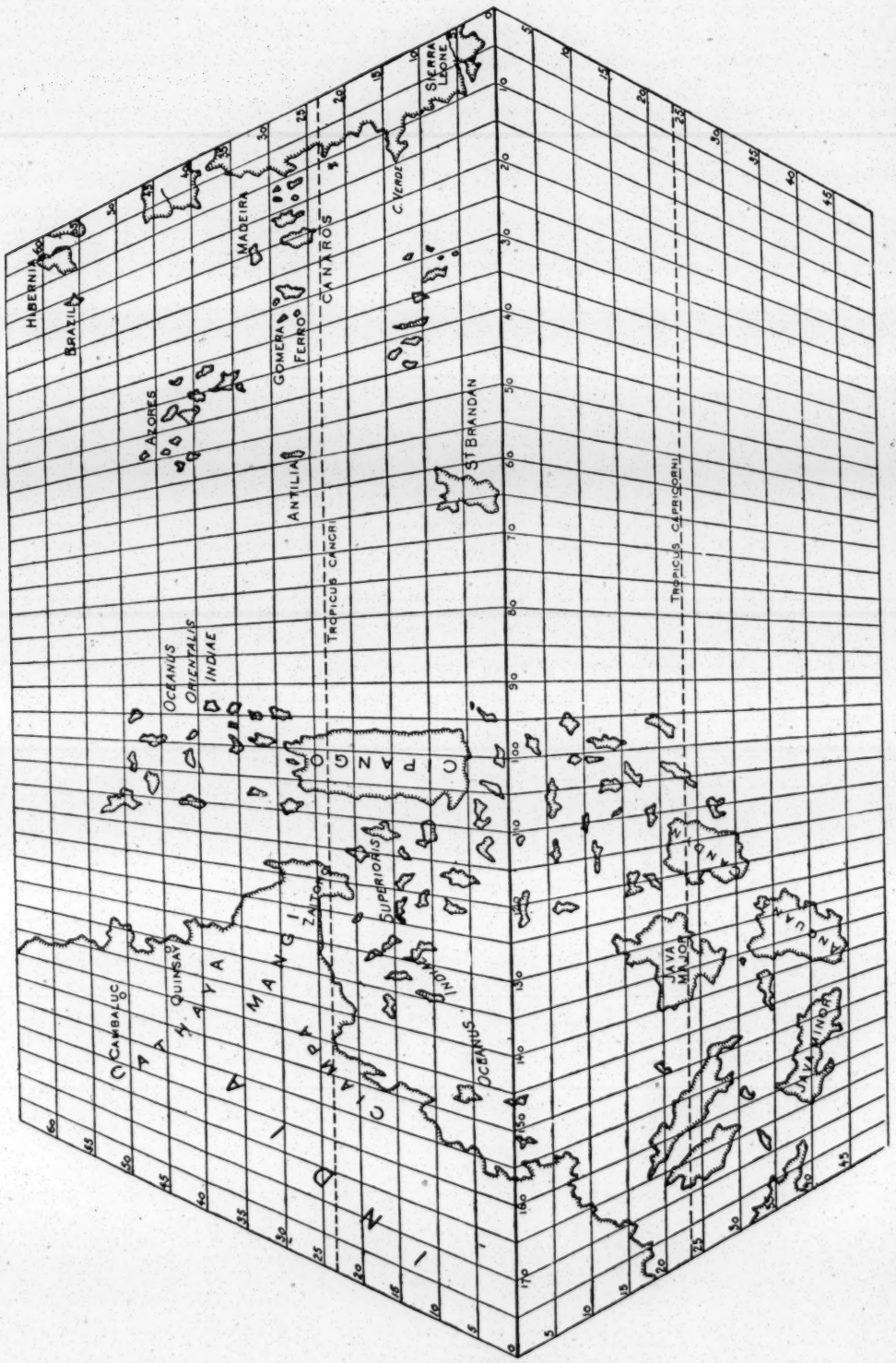
* Reproduced from Fiske, op. cit., p. 357.

Columbus, but as the mariners' compass was not known they rarely ventured out of sight of land.

When Rome became the imperial city commerce, as well as dominion and authority, centered in Rome, and with her decline and fall shipping and commerce disappeared from the Mediterranean.

Then, far away in the north on the Baltic sea, the Northmen began to sail the ocean, not for discovery or commerce but to plunder and ravage richer countries than their own. The vikings became noted as bold rovers of the sea, pillaging every country they could reach by water. Sailing southwestward, they landed on the coast of France and made a permanent settlement in Normandy. They coasted along the shores of France and Spain, plundering as they went; passing the Pillars of Hercules into the Mediterranean, they ravaged the coast of Italy and established colonies in southern Italy and Sicily. Sailing westward, they conquered and colonized the eastern coast of England and Scotland, the Shetland, Orkney and Faroe islands, and from these islands, in A D 850, they sailed 300 or 400 miles northwestward to Iceland, where they made settlements which have continued until our day. One of the early settlers of Iceland was driven by adverse winds to Greenland, where he was compelled to winter, returning in the spring with an account of his discovery. About 986, Eric the Red, an outlaw, fled from Iceland with a few friends to Greenland. Prevented by the icebergs from landing on the eastern coast, they sailed around cape Farewell to the western coast where they founded two small colonies near Juliansburg, which existed for four hundred years until, forgotten and neglected by the mother country, overcome by want and hunger, they succumbed to the climate and the attacks of the Eskimo. Shortly after Eric had colonized Greenland, Bjarni, another Northman, sailing for Greenland, was driven by northeasterly winds continuing for many days far southwestward, to a land covered with dense woods. There is every reason to believe that this was America, and that Bjarni was its first discoverer. It was not the land of ice and glaciers he was seeking, so he sailed northeastward again, and in ten days reached Greenland.

Leif Ericsson, one of the Norse vikings, hearing of this land of woods, about the year 1000 sailed from Greenland in search of it. Passing the barren coasts of Labrador and Newfoundland, which he called Helluland, his party reached Nova Scotia, or Markland, and sailed southward to a place where they found grapes, and hence called it Vineland. They were surprised at the



TOSCANELLI MAP 1474.

length of the winter days, which were nine hours long. The natives they described resembled our Indians and not the Eskimo of northern latitudes, and from these statements and the calculation of latitude from the length of the day, it is believed that it was New England. There they founded the colony of Norumbega, but after a few years it was abandoned, as the settlers were unable to withstand the attacks of the natives. All original records of the discovery of Vineland have perished, and our present knowledge is derived from the sagas of the Northmen, written at least one or two generations after Vineland had been abandoned. These legends bear the impress of truth, and there is no reasonable doubt that Leif Ericsson is a real character and Vineland his discovery. The sagas were lost, or laid away and forgotten in the libraries of Norway and Sweden. In our day some of them have been unearthed, and we know more of the work of Leif Ericsson and his Northmen than was ever known before.

This discovery was not known beyond Greenland and Iceland except to a few men in Scandinavia, for this was the darkest age in the history of Europe.

When the Northmen were making their settlement in Greenland, Peter the Hermit appeared in southern Europe, mustering his forces for the first of those crusades which in their ultimate results accomplished a work of vastly greater importance than the redemption of the holy places from the Mohammedans. The transportation of pilgrims to and from the Holy land gave employment to the ships of Venice and Genoa and restored commerce to the Mediterranean. Their vessels brought the treasures of the Orient and the science and art of Greece and Asia Minor to Venice and Genoa, whence they were distributed through Italy and Europe. The feudal system was broken down and the renaissance brought in. Europe awoke from the long sleep of the dark ages to new life and energy; progress in art and science became rapid, and the world entered upon an era of invention and discovery.

By the middle of the fifteenth century, Brunelleschi had finished the Duomo at Florence, where Savonarola was preaching and Michael Angelo was studying. Faust and Gutenberg were inventing movable types at Frankfort, upon which the Bible—the first book ever issued from the printing press—was printed. Gunpowder and the mariners' compass were just coming into use in European countries, though both had been discovered earlier.

In England, the Wars of the Roses were over. Henry VII

was king, and with him the reign of the Tudors and the prosperity of England commenced.

In Spain, Ferdinand and Isabella were preparing for that war with the Moors which resulted in their expulsion from the Spanish dominion.

In eastern Europe, the Turks had a short time before captured Constantinople and destroyed nearly all the commerce of Venice and Florence, and were now raising an army to ravage Austria and Hungary.

In Portugal, Prince Henry the Navigator was making those voyages to the coast of Africa for discovery and trade which made Portugal for one hundred and fifty years the greatest maritime nation of the world. Each year these expeditions sailed further and further southward, passing the Gold coast, the equator, the river Congo. They sailed out into the ocean and rediscovered the Azores, Madeira and the Canary islands, formerly known to the Phenicians. In 1442 their ships brought home African negroes to be sold as slaves in Lisbon, the beginning of the African slave trade. In 1486 Diaz rounded the southern extremity of Africa and called it the Stormy cape, though Prince Henry named it the cape of Good Hope. Greater discoveries were made during the lives of men contemporary with Columbus than in all times previous or subsequent.

Columbus is for us the principal figure in this new world. He was born in Italy about 1446, though we know with certainty neither the place nor time of his birth and but little of his early life. He followed the sea for many years, sailing to Africa, England, and probably Iceland. About the year 1470 he is found in Portugal, where some say he was shipwrecked on the coast while on a piratical voyage. Here he married a Portuguese lady, whose father had been governor of one of the islands off the coast of Africa; and there he resided for several years, making maps and pursuing those studies which fitted him for his great voyage of discovery. He knew that the spices from the islands of the Indian ocean, the silks, diamonds and pearls of India, were carried by the Arabs through the Red sea or up the Euphrates in boats and thence by caravans to the Mediterranean and Black seas, where they were exchanged with the merchants of Venice and Genoa for the goods of Europe.

He was convinced by the study of Marco Polo not only of the wealth of Cipango and Cathay and of the great trade between the

Orient and the Mediterranean, but also of the possibility of reaching those countries and obtaining that trade for Spain by sailing west rather than by circumnavigating Africa. The actual distance from Europe in a due west line to Cipango is nearly twelve thousand miles; Toscanelli estimated it as 100° or nearly five thousand miles, but his map showed islands on the route which would reduce the distance between any two lands to about 2,000 miles.*

Columbus was a devout Catholic, holding to the teachings of the church. In the book of Esdras he read that God on the third day of the creation made the earth, six parts of land and one-seventh water. He knew the vast extent of the Atlantic north and south, and reasoning from these facts he thought it could not be over 2,000 or 2,500 miles to Cipango, though he actually sailed 3,230 miles before he reached a new world.

After Columbus determined to cross the Atlantic he applied for help to the king of Portugal. He wrote, "They took my charts and writings from me, saying they would ponder them, but secretly they sent out the ships they had denied me. God drove them back on their own coasts and punished their treachery, but I could no longer trust them." He therefore left Portugal for Spain. Las Casas describes him at this time as a man of noble and commanding presence, tall and well built, with a ruddy complexion, keen, blue-gray eyes that often kindled, while his waving white hair made him quite picturesque; his manner courteous and his conversation charming. He had an indefinable air of authority, as became a man of great heart and lofty thoughts. It was this commanding presence which enabled him to stand before Ferdinand and Isabella as their equal.

In 1484 he arrived in Spain a foreigner, poor and in debt. A stranger and friendless, he appeared at the court of the proudest sovereigns of Europe. Yet such was his bearing and the effect produced upon the king and queen by his eloquence that they appointed several learned men to consider his project. Some few believed, many remained in doubt, but most laughed at him as visionary and ridiculed his proposals as the dream of a madman. Those that were convinced by his reasoning became his firm friends. For seven years he waited patiently at the court, renewing his suit from time to time, until Grenada was conquered, when Isabella had promised to listen to him. A man less con-

* Plate 3.

fident, less in earnest, would have succumbed before the many difficulties and delays he encountered. Again he applied to Isabella, and she agreed to equip a fleet. Columbus demanded that he should be made high admiral of the western seas and viceroy and governor of all the continents and islands which might lie therein, and that he should receive one-eighth of the net profits from all trade with such countries. Isabella refused, but Columbus, knowing that the discovery of a new and shorter route to the Spice islands would give Spain the control of their trade, and realizing the power and wealth that would accrue to the Spanish throne through such discovery, insisted on his demands, and for this great constancy and loftiness of soul Las Casas commends him.

After this refusal Columbus mounted his mule and started for France, but was soon recalled; he returned to the court, which agreed to his demands. A patent was granted appointing "Christopher Colon, as soon as he shall have discovered said islands or mainlands in the ocean sea, or any one of them, to be our admiral of the ocean sea, viceroy and governor, in the said islands or mainland: I the Queen; I the King."

The fleet of Columbus was three small vessels; the largest a single-decked ship 90 feet long, the others with decks only in the stern and prow. His crew was 90 men. On August 6, 1492, they sailed from Palos, and on October 21 discovered the Indies. Columbus returned to Spain and appeared at the court of Isabella with his train of Indians bearing gold, silver, precious stones, and other products of the islands he had discovered. It was Cathay and the shorter route to the Indies he supposed he had found, though he did not find the cities and rich countries, the gold and silver, the pearls and jewels, that he sought. He thought these treasures lay further westward, and that he must find the straits of Malacca, and through them sail to the Spice islands and India, and for that purpose he sailed on his second voyage, and after following the coast of Cuba 1,000 miles, believing he had found the continent of Asia, returned to Spain.

Ferdinand and Isabella gave many persons the right to visit the new-discovered lands, as was their prerogative, but they also appointed governors over the land and water, contrary to their agreement with Columbus.

On his third voyage, in 1498, he reached South America, the first European to discover that continent. He found a large bay and thought he had reached the straits; but, alas, the waters

were fresh—it was only the Orinoco river. He coasted for some distance along the shore of the Caribbean sea still looking for the straits, and then set sail for Hispaniola (or Cuba), where he had left his brother governor. On arriving he found his brother deposed and imprisoned. Columbus himself was put in chains and sent home. The captain of the vessel offered to remove his chains, but he refused, saying that they had been put on by order of the king and could be removed only by him.

While Columbus was vainly searching in the new world for the Orient, Vasco de Gama found it for Portugal in 1497 by sailing around the cape of Good Hope and crossing the Indian ocean to India and the Spice islands. He returned to Lisbon bringing all manner of precious stones, silks and satins, and spices of every kind. Columbus for the time was forgotten, and it was only after a long detention that he was permitted again to sail toward the western world.

On his fourth and last voyage Columbus landed at Honduras, followed the coast of Nicaragua and the isthmus of Panama, and then sailed along the Caribbean sea vainly searching for the straits that would lead him to the promised land.

On his return from this voyage the queen, his friend, was dead, and the last eighteen months of his life were spent in poverty and sickness at Valladolid, where he died in 1506, so little known that the local records of the city, which give many insignificant details, make no mention of his death.

After Columbus had opened the way it was easy for other navigators to follow where he had led. Two other Italians, John Cabot and Sebastian, his son, sailed from England in 1497 nearly due westward for Cathay. They discovered Newfoundland and sailed thence northeastward along the coast of Labrador, and were probably the first discoverers of the continent of America. The next year they made another voyage to Newfoundland, and then followed the coast of North America southward, probably reaching the Carolinas. These voyagers, still seeking Cathay and the Spice islands, cared little for a land of hills and rocks, where neither gold nor silver was found.

Two generations pass before we hear of any further English expeditions to the new world.

The most noted of the followers of Columbus was Americus Vespucius, like Columbus and the Cabots an Italian, a pilot

of great reputation, sailing in the service of Portugal. In 1497 he sailed around the gulf of Mexico, Honduras, Mexico and Florida, and thence along the coast of North America nearly to Chesapeake bay.

On another voyage he sailed to South America, reaching it a little north of cape Saint Roque. He followed the coast nearly to the mouth of the Rio de la Plata, taking possession of the country for the king of Portugal.

Vespucius knew that this country was south of every part of Asia, and therefore could not be a part of the world as then known; he realized that he had discovered a "new world." An account of this voyage was published in German, Italian and French, with the title in the French edition, "*Novus Mundus.*" In a map published in 1514 it was called "America." Thus the name of Americus Vespucius was given to the new world, and he received the honor due to Columbus. It was said that "Columbus had discovered new islands, Vespucius a new world"—that world already discovered by the Northmen, then by Columbus, the third time by Cabot, and now by Americus Vespucius.

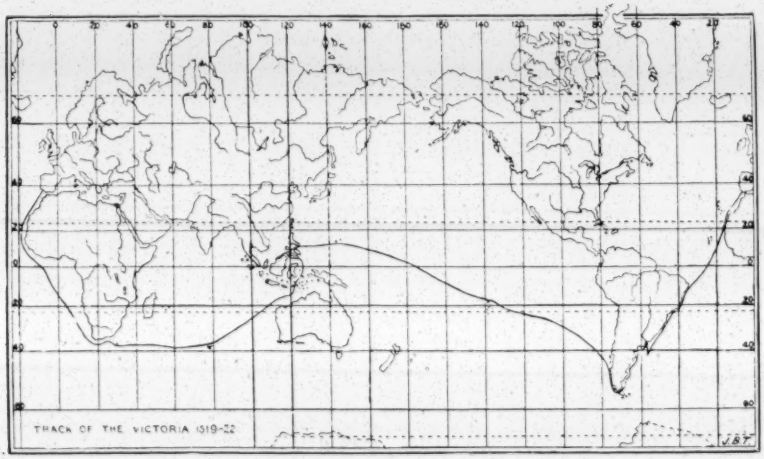
After Columbus, Magellan was the greatest of the discoverers of America. Born of a noble Portuguese family, he early entered the naval service and sailed to India, where for seven years he was employed on land and on sea in laying the foundation of the Portuguese empire. He gained a great reputation for his services, and returned to Lisbon. Disappointed in an application to the king of Portugal, he went to Spain, where Charles V gladly received him and gave him the command of a fleet of five vessels, in which he set sail for India and the Spice islands. Magellan, like Columbus and Vespucius, hoped to find a way to India through some strait dividing South America, or, failing in that, by sailing around the mainland.

He left Spain in 1518 for Brazil, sailing then southwardly along the coast to about 50° south, where he spent the winter. Three of his captains became discouraged, mutinied and determined to return. Magellan heard of their treachery. He summoned the leader to his vessel. On his refusal to obey, the officer bearing the summons plunged a dagger into the heart of the mutineer; at the same moment a boat's crew from Magellan's vessel mounted the deck, and the mutiny was over. The other mutineers were either hung or left to perish on the coast of Patagonia.

Early in the spring of 1519 the fleet set out again, one vessel

having been shipwrecked, and found a channel which proved to be the long-sought passage to India. Three months were spent in exploring the straits of Magellan before they entered the Pacific ocean. One of the vessels sent to explore a channel in the straits deserted and returned to Spain.

They sailed along the coast of Patagonia 400 or 500 miles, and then northeastward toward Cathay and the Spice islands. The wind was light, the ocean was as calm and smooth as an inland sea, and they called it the Pacific ocean. For months their progress was slow; their food failed; scurvy and sickness broke out.



* FIGURE 1.—*Magellan's Circumnavigation.*

Finally they reached the Ladrone islands and found the food and rest they so much needed. They then sailed for the Philippine islands, where in a foolish affray with the natives Magellan was killed; but he had finished his work—he had circumnavigated the globe; he had reached the east by sailing west.

One of the three vessels which had crossed the Pacific was abandoned and burnt in the Phillippine islands, another was lost in the Malaccas; the last, loaded with spice, returned to Spain and finished the most remarkable voyage on record. Of the 280 men who sailed with Magellan in September, 1519, only 18 returned in September, 1522. The cost of this fleet, with

* Reproduced, with minor alterations taken from the text, from a tracing of a chromolith showing the "Voyage of the Victoria" in "The Life of Ferdinand Magellan," by F. H. H. Guillemard, 1891 (?), pl. ii, p. 142.

all its equipment, was about $20,000.00, less than one-half the cost of the steamer plying between Washington and Mount Vernon. The sale of the spices left a large profit to Charles V and the merchants who had furnished the funds for the adventure.

The king of Spain gave to the heirs of Ferdinand Magellan for their coat of arms a terrestrial globe belted with the legend "*Primus circumdedisti me*"—"Thou first encompassed me."

In 1513 Vasco Nunez Balboa, a Spaniard who had married an Indian princess, heard, from the natives, of the Pacific ocean and of the land of the Incas, where gold, silver and precious stones abounded. On September 25, from the top of the mountains tains he looked down on the Pacific ocean, the first European to behold it. He collected a few vessels on the Atlantic coast for a voyage of discovery to Peru, and, taking them to pieces, he carried them across the isthmus and launched them on the Pacific. Two thousand Indians, we are told, perished in this work. When nearly ready to sail he was recalled by the governor of Darien and beheaded.

After the death of Balboa, Francisco Pizarro, one of his followers, returned to Spain with an account of the land of the Incas, and in 1529 was made governor and captain-general of this country, then called the province of New Castile, with leave to fit out at his own expense an expedition to conquer that territory. He left Panama with three ships, 180 men and 27 horses, but it was not until two years later that they landed in Peru and began that contest which resulted in the overthrow of the Incas and in loading with riches the meanest of Pizarro's followers. The civilization of the Incas, the highest type in America, was crushed.

The Spaniards soon after this conquest sailed still further southward, along the coast of Peru and Chili, even to the straits of Magellan.

Rumors of an eldorado beyond the Andes came to Pizarro. One of his followers, Orellano, was sent to cross the Andes and descend to the headwaters of the Amazon, but he could not find the promised land. His party, famished and decimated by the fatigue of the journey and unable to return to the Pacific, built a boat and floated down the Amazon river 4,000 miles, to its mouth.

Before the discovery of Peru by Pizarro, Sebastian Cabot, with a small Spanish fleet, in 1527, sailed up the Rio de la Plata to the great falls of the Parana. He found some silver and gold mines in Brazil and heard of the civilization and riches of the Incas of Peru, but was unable to cross the mountains to their country.

Thus within fifty years after the discovery of America, South America had been circumnavigated, its great rivers navigated, and the general features of the interior and its treasures of gold and silver made known to the Spaniards and Portuguese.

Some time before the conquest of Peru, the Spaniards heard rumors of the great city of the Montezumas. In March, 1519, Hernando Cortez, one of the most daring and able of the adventurous Spaniards, landed on the coast of Mexico with ten vessels, 600 to 700 soldiers, 18 horsemen and some cannon. He burnt his ships, thus cutting off all retreat, and then marched toward the city of Mexico. By his courage, address and strategy he conquered or made friends of several tribes of Indians hostile to Montezuma. He pushed onward to the city of Mexico, where he was received with great pomp by Montezuma and escorted into the city as his friend and guest. Soon after Cortez, learning that Montezuma was preparing to attack the invaders, visited him in his palace, and by persuasion and force took him to the Spanish quarters and kept him a prisoner. Some time later the Indians chose another king and attacked the Spaniards, but after a slight success were defeated with great loss. Then Cortez, having captured and fortified the city of Mexico, defeated the other tribes and subdued the whole country. He subsequently explored it to the gulf of California and Lower California, on the other side of the gulf. He then returned to Spain, but was not received by Charles V as he expected. Forcing his way to the royal presence, Cortez replied to Charles, who wished to know who the intruder was, "I am the man who has given you more provinces than your father left you cities." There is no tale in the history of the world more marvelous than the conquest of Peru and Mexico, when we consider the high culture and strength of the natives, the small number of Europeans engaged, the extent of the conquests, and the value of the treasures obtained.

The Spanish discoverers of America were men of marked ability, capable of enduring privations of every kind, prompt in action, prepared for every emergency, proud, brave and self-

reliant to the verge of rashness, eager for adventures, cruel, unscrupulous and rapacious, of unbounded greed and ambition. They sought and found gold and silver in Peru and Mexico in such quantities as they had never dreamed of; the new world brought to Spain greater wealth and glory than Columbus ever expected to find in Cathay or the Spice islands. Spain, it is said, drew from America during the sixteenth century seven hundred millions of dollars in gold and silver, a sum fully equal to ten times as much in purchasing power at that time as it would be to-day.

In the exploration of North America the Spaniards took little interest. "What need have we," they said, "of things which are common to all the countries of Europe—to the south, to the south for the great and exceeding riches of the equinoctial; they that seek riches must not go into the cold and frozen north."

The French, though they made some remarkable journeys in the continent of North America, furnished but one discoverer whom we shall notice, Jacques Cartier, a French navigator, who was appointed in 1534 by Francis I to the command of two ships for exploring the district near the fishing grounds of Newfoundland. He sailed up the Saint Lawrence and took possession of Canada for France, erecting a wooden cross with the inscription, "*Vive le Roy de France.*" In 1541 a settlement was made near Quebec, the commencement of the French colonization in Canada.

The English were far behind the Spanish and Portuguese in the exploration of America. Their first great voyagers after the Cabots were slavers, buccaneers and pirates. Their most noted commanders were John Hawkins and Francis Drake, who carried a cargo of negro slaves from Africa to the West Indies and sold them at an enormous profit. They there heard of the Spanish galleons bearing the treasures of Peru and Mexico to Spain, and of the cruelties with which English seamen, taken prisoners, had been treated. On their return, fleets were equipped and sent to the gulf of Mexico to capture the treasure ships and avenge the wrongs of the English sailors.

The queen frequently furnished ships belonging to the royal navy; they were equipped by Raleigh and other English noblemen, and the prizes were divided between the crew, officers,

nobles and queen, the queen obtaining the largest share. Sir Francis Drake, one of the boldest and most successful of these cruisers, on one trip overhauled and plundered over 200 vessels and pillaged towns and cities. Several times Philip II of Spain demanded his surrender as a pirate, for during all this time the two nations were at peace; the queen hesitated and delayed, but never yielded to the demand. There and then the foundation was laid of the navy and seamen of Great Britain.

In 1577 Drake was summoned to a private audience with the queen, at which it was agreed that a fleet of five ships should be equipped, nominally for the Mediterranean but really for the South seas, as the Pacific ocean was then called, to capture the great galleons, the treasure ships of Spain; and that the queen should contribute 1,000 crowns to the cost. On August 20, 1578, Drake, with this fleet, reached the straits of Magellan and sailed through them in two weeks into the Pacific. There they encountered long and terrific storms, which carried them far south of the straits. One of Drake's vessels had been broken up for fire-wood, another swamped in his sight, and the third deserted and returned to England.

On the fifty-third day of the tempest, Drake found himself south of cape Horn, where no other vessel had ever sailed. Here, according to all the maps, was the great Austral continent, which extended an unbroken land area from the straits of Magellan to the antarctic pole; but he found only water—before him rolled the waters of the Atlantic and Pacific in one great flood. He walked to the end of the farthest island, lay down, and with his arms embraced the southernmost ground of the new world. Then the weather changed and all went well. He sailed along the coast of South America, captured Valparaiso, took all the treasures he could find, refitted and provisioned his ships, and sailed northward, taking treasure ships and plundering cities until his vessel could carry no more, although it was ballasted with silver and gold.

Instead of returning as he had come, Drake determined to seek and find the fabulous strait so long sought by Columbus, and by that channel to find his way home. He followed the coast from Central America northward to the latitude of Vancouver and took possession of the land for England, calling it New Albion; then, finding the coast still trending to the northwestward and the weather growing more and more severe, he gave up his attempt, landed at the harbor of San Francisco, refitted

his ships, and returned home by the cape of Good Hope, reaching Plymouth in September, 1580, the second man to circumnavigate the world (figure 2*). What his reception would be at home was questionable. The news of his exploits had reached Spain the year before, and the ambassador of Philip demanded that he should be executed as a pirate, and renewed the demand as soon as he heard of the explorer's return. The result of this demand was for some time doubtful; but when it was heard that a Spanish hostile fleet had landed on the Irish coast, the queen determined to support Drake and receive her share of the spoils. What they were we are not told, but they must have been very

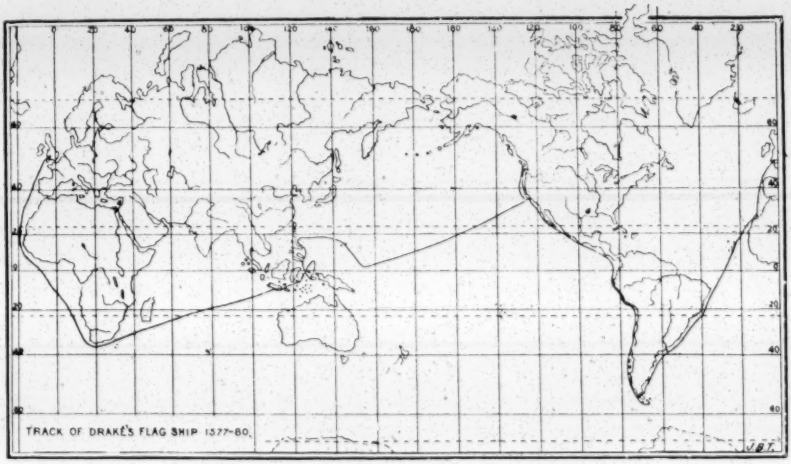


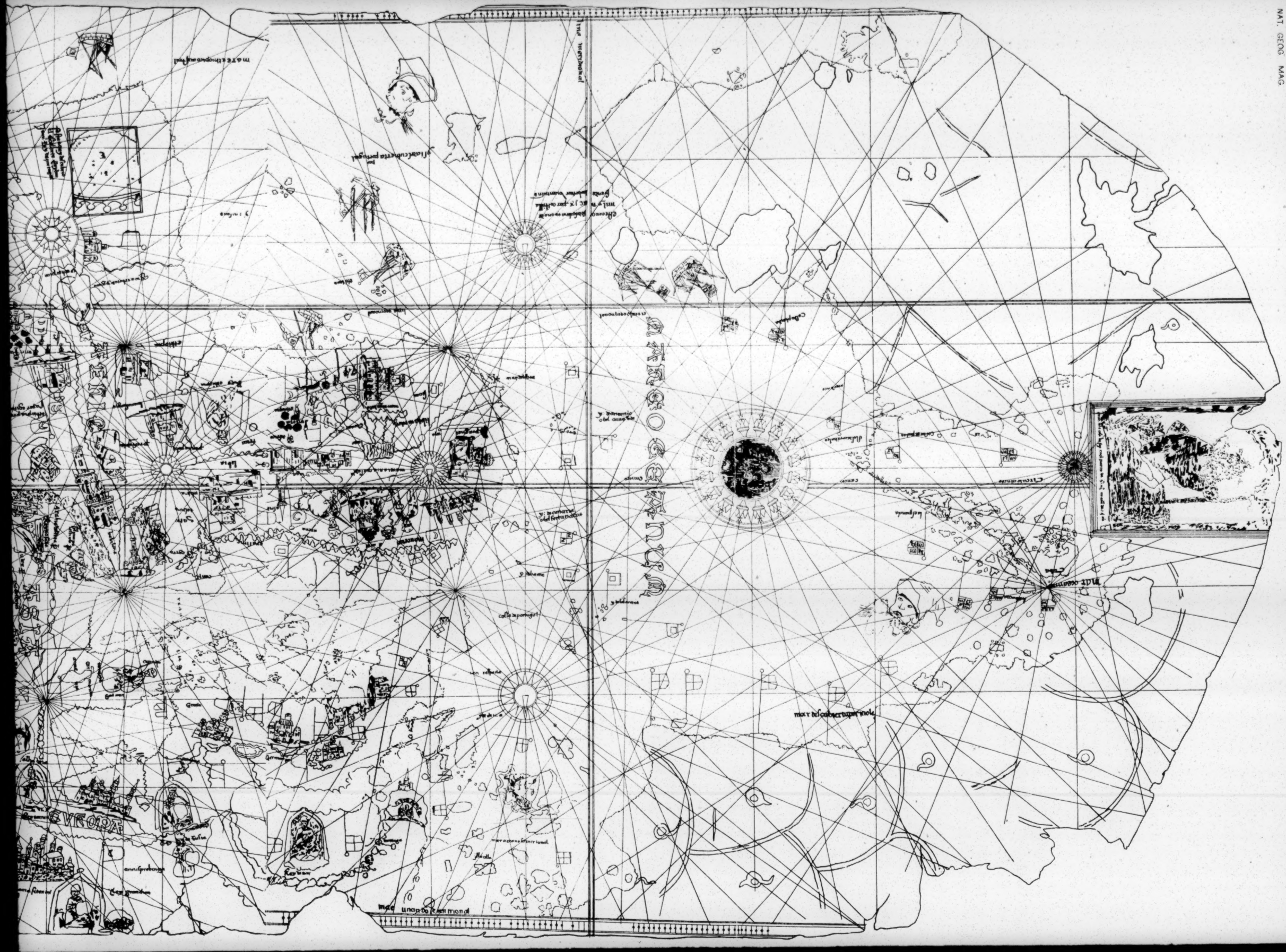
FIGURE 2—*Drake's Circumnavigation.*

great as Drake's share was 10,000 pounds, equal to $400,000 of our money today. This voyage of Drake completed the discovery of America from the northern coast of Labrador southward around cape Horn and northward to 48°, the latitude of Vancouver island.

Nearly one hundred years elapsed from the first voyage of Columbus to the voyage of Drake, each of whom vainly sought a way through America—the one from the Atlantic to the Pacific, the other from the Pacific to the Atlantic.

Thus, before the end of the sixteenth century, the whole continent of America, save the arctic border, had been circumnavi-

* Compiled by John B. Torbert from "The Life of Sir Francis Drake," by Julian Corbett, 1892.



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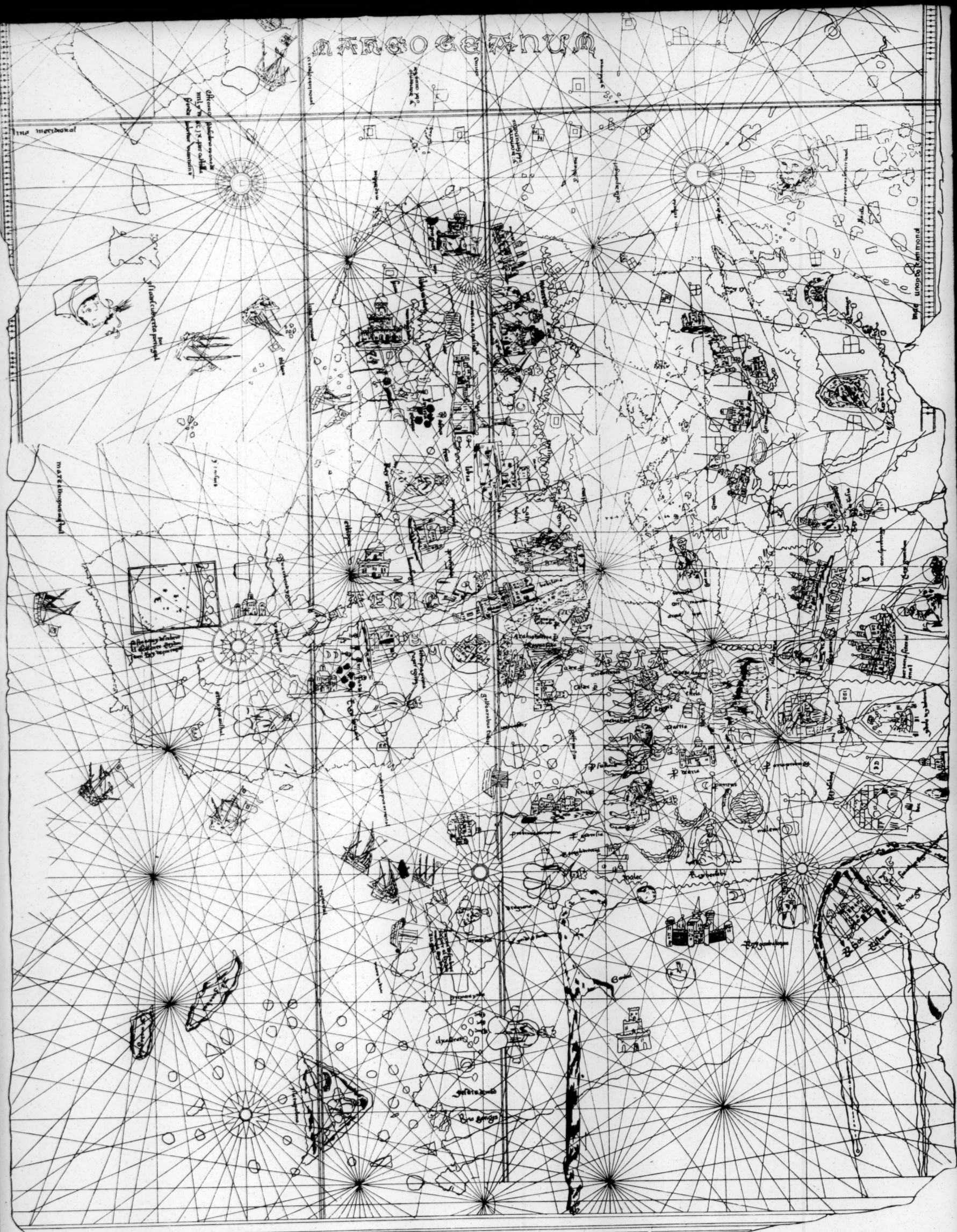
MAGOGEANUM
ASIA
AFRICA
EUROPA
Ins meridionalis
Ins Canarie
Ins de Brasil
Ins Antilie
Ins Dominica
Ins Sancti Laurencii
Ins Sancti Johannis
Ins Jamaica
Ins Sancte Crucis
Ins Sancte Trinitatis
Ins Sancti Vincentii
Ins Sancte Marie Antigue
Ins Sancte Marie Rotunde
Ins Sancte Marie de Guadalupe
Ins Sancte Marie de Monserrate
Ins Sancte Marie la Redonda
Ins Sancte Marie de Montserrate

gated and the southern part of it colonized; but it was not until after another century and another age that another race found homes for themselves on the coast of North America.

The voyages of the discoverers of America gradually became known to the public. It is interesting and instructive to examine the early maps representing these voyages to see how slowly the geography of the new world became known.

On the Zeni map of 1400, published in 1558, Greenland is connected with Norway. The same connection is shown in the Claudius Clavus map of 1427, in the Portuguese mappemonde of 1490, and even in the Ptolemy map by Waldseemüller in 1513; while in the map of Europe at the end of the "Chronicon Nurembergense," 1493, Greenland is shown as an isthmus connecting Norway and Sweden with Russia.

One of the first maps drawn after the discovery of America was that made in 1500 by Juan de la Cosa, a celebrated pilot and cartographer who accompanied Columbus on his first and second voyages and Vespucius on his first voyage. It delineated parts of the eastern coasts of South America and North America, showing by the flags of Spain, England and Portugal the coast explored by the ships of each country. On that part of the map between North America and South America, Columbus is drawn as Saint Christopher bearing the Christ child on his shoulders. The figure thus fulfills a double purpose of honoring Columbus and covering the undiscovered portions of the continent (plate 4*).

On the Cantino chart of 1501–1502 South America is delineated as surrounded by water from about 30° south to the isthmus of Darien, then Cuba, the West India islands and the coast of North America from 37° to 54° north. There is no land connecting North America and South America.

On the Ruysch map of 1508, two years after the death of Columbus, Greenland and Labrador are connected with Asia. The new world appears as an island near the equator (plate 5†).

*The original of this map is preserved in the Museo de la Marina at Madrid. Plate 5 is reduced from a tracing of a lithographed fac simile, in colors, in possession of Mr Thomas Wilson, whose courtesy in permitting the use of this rare map it is a pleasure to acknowledge.

†Photolithographed directly from a copy of the edition accompanying the "Geographiæ Cl. Ptolemæi," Romæ, 1508, now in the Library of Congress, through the kindness of Hon A. R. Spofford. The Ruysch map is of special interest as showing the Cabot discoveries of 1497 and as being the first map of the world engraved on copper.

On the Lenox globe, so called, made about the year 1510, now in the Lenox library in New York, South America is a large island, while North America is represented by a number of detached islands.

On the map attributed to Leonardo da Vinci, 1514, the name "America" appears for the first time, and is given to a large island on the equator. Florida is the name of another island northwest of "America."

On the Schöner globes of 1515 and 1520 North America and South America are two islands, while the southern part of "America" is separated by straits from an Antarctic continent, and on the globe of 1520 the city of Mexico is identified as the Quinsay of Marco Polo. On the Hauslab globe of 1516–1517 the name "America" is given to South America. Straits connecting the Atlantic and Pacific oceans separate North America from South America.

On the Maiollo map of 1527 South America, including the isthmus of Panama, appears an island separated by the "Straito Cubitoro" from North America. On the Münster map of 1532 South America is an island with a strait between it and Cuba, leading into the Pacific ocean, while on the Münster map of 1540 North America and South America are connected by an isthmus.

On the Paris gilt globe, about 1525, Greenland is an island, Labrador and "Terra Florida" form parts of Asia, while the gulf of Mexico is fairly delineated, with Cathay on its western shore. The Schöner globe of 1533 is much the same in the middle latitudes, while the Paris wooden globe, about 1535, represents Greenland, Labrador and Florida as belonging to Asia, the gulf of Mexico as the "M[are] Cathairum," and South America as a peninsular extension of the Asiatic mainland.*

On the map of Orontius Finæus, 1537, thirty years after the death of Columbus, Greenland is an island, Labrador and the coast of North America are attached to the northern part of Asia, Cathay appears on the gulf of Mexico, and South America is connected with the southeastern part of Asia. This map was made nearly twenty years after Magellan had circumnavigated the world.

On the Gastaldi carto marina of 1548 Greenland is connected with Norway on the east and Labrador with America on the

*"The Discovery of North America," by Henry Harrisse, 1892, pls. xvii, xxi, xxii.

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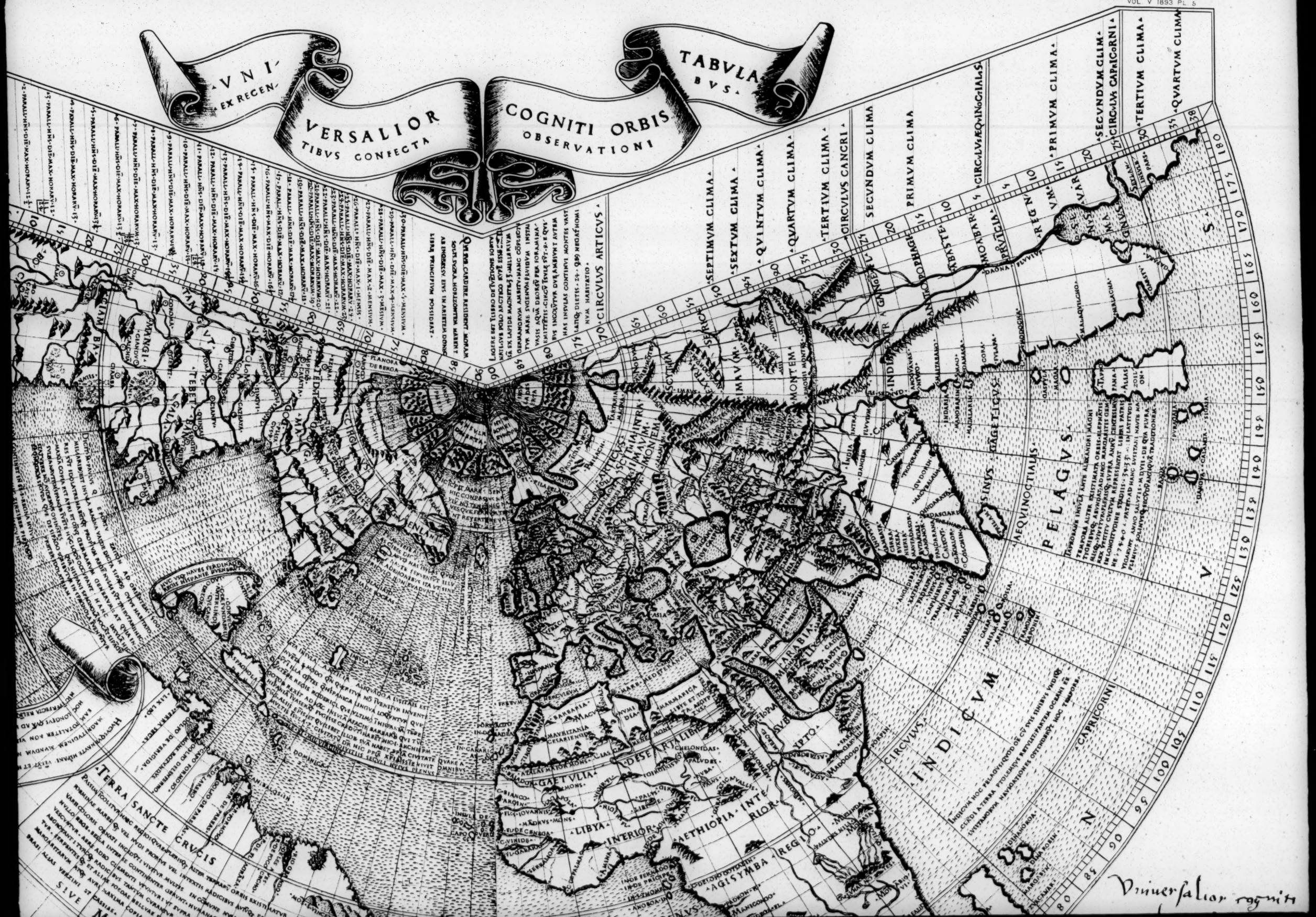
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CIRCVLVS CANCRI
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CIRCVLVS ARTICVS
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QVINTVM CLIMA
SEXTVM CLIMA
SEPTIMVM CLIMA
SECVNDVM CLIMA
PRIMVM CLIMA
TERRA SANCTE CRVCIS
AETHIOPIA INTERIOR
LIBYA INTERIOR
DESERTA LIBIE
GAETVLIA
ARABIA
INDIA
TARTARIA
CHINA
MANGI
TEBET
CATHAIA
CAMBALV
SERICA
SCYTHIA
PERSIA
MESOPOTAMIA
ARMENIA
CASPIVM MARE
MARE MEDITERRANEVM
MARE ATLANTICVM
MARE ERITHREVM
MARE INDICVM
AGISYMBA REGIO
ZANGVEBAR
MONOMOTAPA
ABYSSINI
NILVS
GANGES
INDVS
DANVBIVS
TANAIS
NILVS
ATLAS MONS
CAPVT BONE SPEI
CAPVT VIRIDE
CAPVT DE PALMA
CAPVT DE BEROA
CAPVT DE CATHAIA
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INSVLA DE CORSICA
INSVLA DE MALLORCA
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INSVLA DE IVIZA
INSVLA DE FORMENTERA
INSVLA DE CANARIA
INSVLA DE MADEIRA
INSVLA DE PORTO SANCTO
INSVLA DE AZORES
INSVLA DE CAPO VERDE
INSVLA DE SANCTO THOMAS
INSVLA DE SANCTA HELENA
INSVLA DE ASCENSION
INSVLA DE SANCTA CRVCIS
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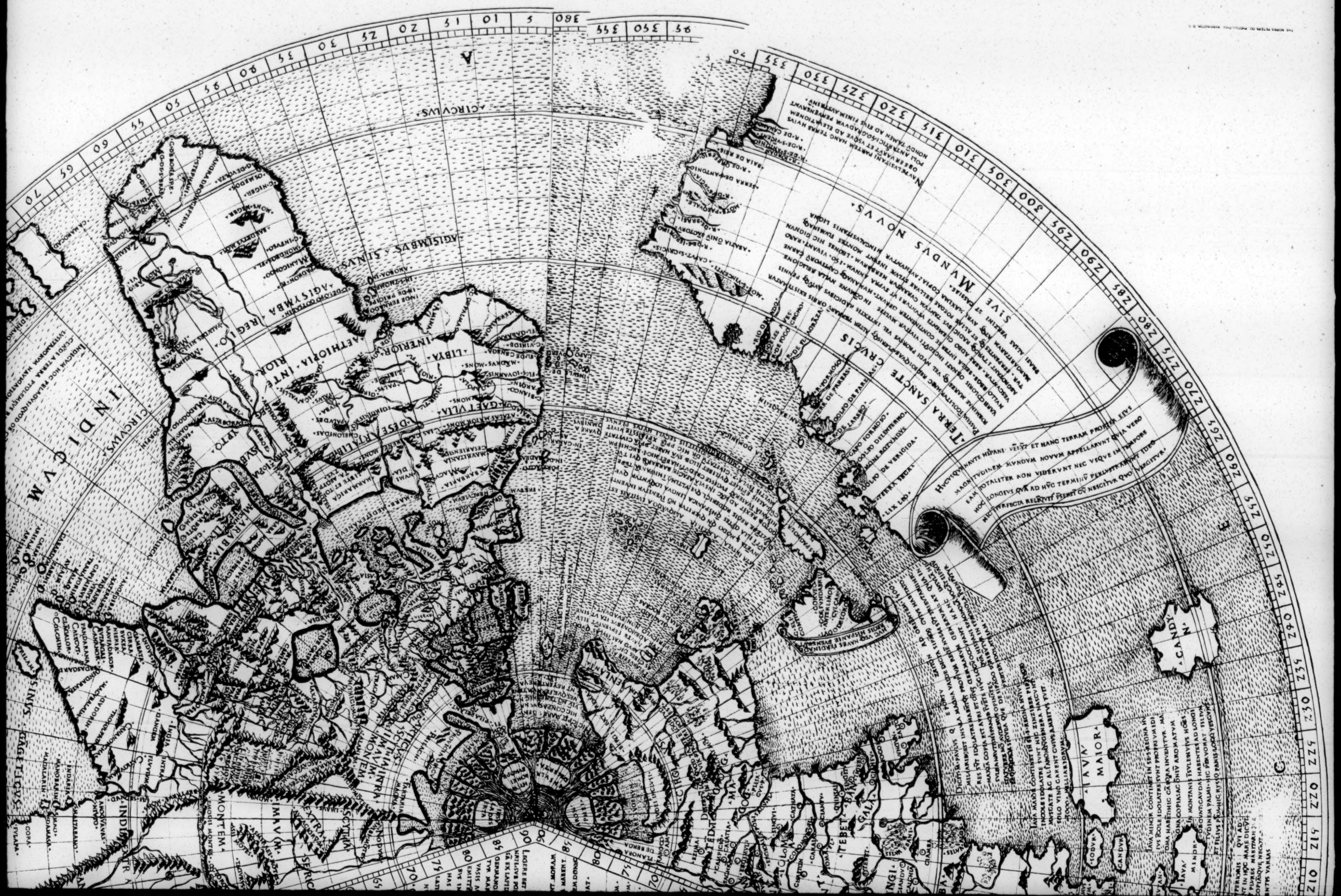
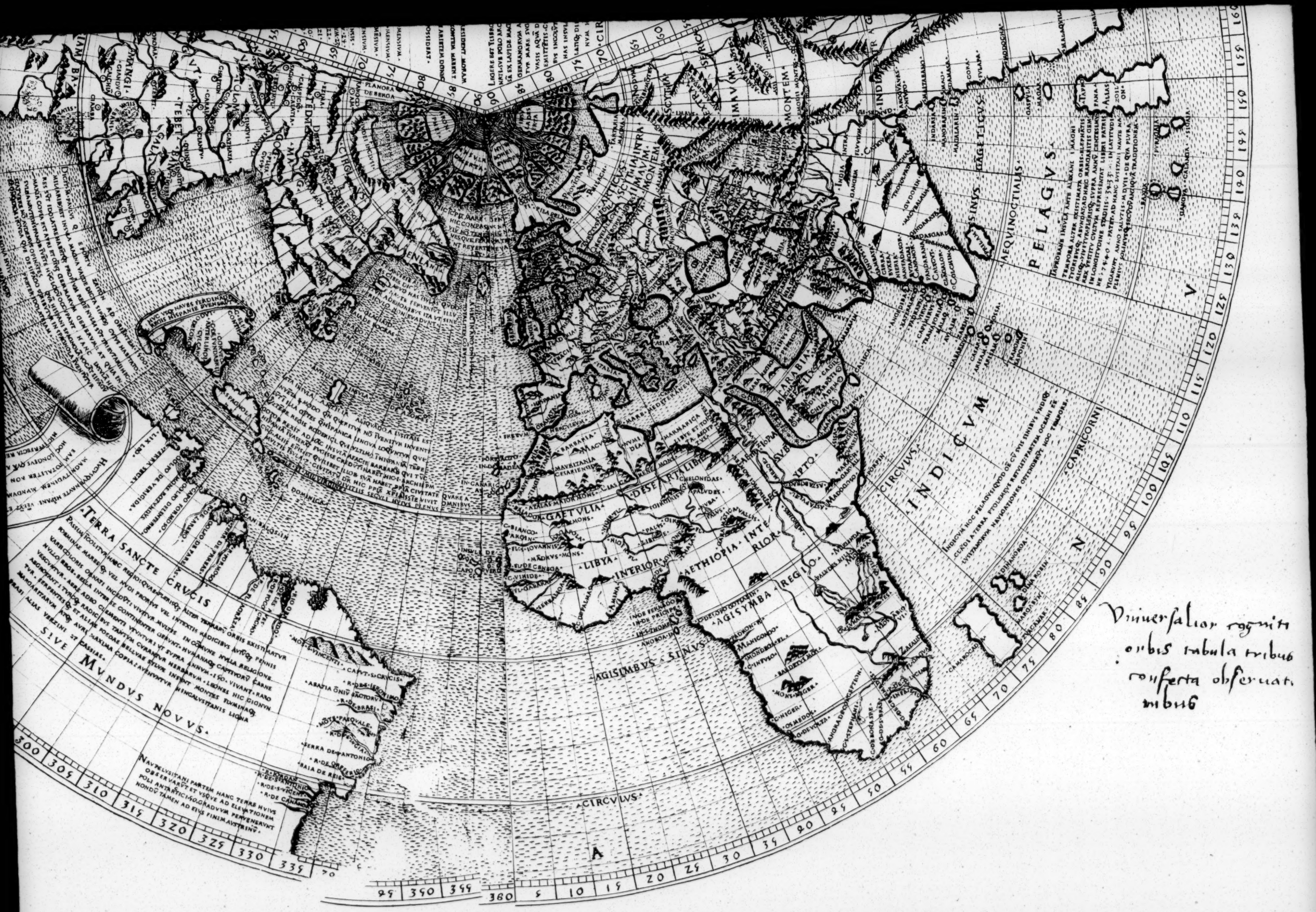
RUYSCH MAP 1508





RUYSCH MAP, 1508

west. North America and South America are connected, and the Austral continent is shown south of the straits of Magellan.

There was no map published until after the sixteenth century that gave a correct delineation of the seacoast of America. It is no wonder that Columbus never comprehended the nature or extent of his discoveries. The more we study the history and geography of the times, the influence of the church, the difficulty of determining longitude, the ignorance of the movements of the mariners' compass and of the distance to Cipango, the greater will be our admiration for Columbus. Yet a recent writer speaks of the discovery of Columbus as a blunder, and others say, as if in disparagement of his work, that he knew of the discoveries of the Northmen and was only following their track; that the chart of Toscanelli which Columbus took on his first voyage indicated clearly his route; that Columbus died in the belief that he had discovered Cipango and Cathay, never realizing that it was the new world, and that Americus Vespucius is entitled to the greater credit.

Let us hear the opinion of a contemporary of Columbus, Sebastian Cabot: "When news was brought that Don Christopher Colon, the Genoese, had discovered the coasts of India, whereof was great talke in all the court of King Henry the VII, who then reigned, all men with great admiration affirmed it to be a thing more divine than humane to saile by the west into the easte, where the spices growe, by a chart that was never before knowen."

It is very doubtful if Columbus knew anything of the voyages of the Northmen, nor would such knowledge have been of much value, for Greenland was then believed to be a part of Europe and joined to Norway. If Columbus had known of the discoveries and sought the countries they had found, he would have sailed northwestward instead of westward.

Many before Toscanelli and Columbus believed the world to be round, and that by sailing westward Asia might be reached. Columbus not only believed but proved it. He made no blunder, for he sought land the other side of the Atlantic, and he found it. Vespucius knew little more than Columbus of the new world, and never realized that North America and South America were one continent. The maps show that learned geographers long after the discoveries of Columbus, Vespucius, Cabot and Magellan did not understand the geography of the new world.

All voyages before that of Columbus had been coasting voyages, the sailors keeping in sight of land. Columbus pushed out into the unknown and trackless ocean, leaving the land far behind. Good seamen were unwilling to undertake so terrible a voyage, so convicts were obtained, liberated from prison on condition of sailing with Columbus. A brave, resolute and self-contained spirit was necessary to command such a crew on such an expedition. New wonders startled him each day. The magnetic needle, instead of pointing steadily northward, swerved toward the west. The wind for many days blew unvaryingly from the east, and the sailors thought it would prevent them from returning. The Saragossa sea puzzled them. They daily grew more timid as they sailed further and further into the ocean, though they had sailed much further than they supposed. No voyage like that was ever made before and none like it can ever be made again, for the great discoverer solved the problem and reached the east by sailing west.

How like a tragedy the life of Columbus! Twelve years of preparation and waiting, five in Portugal and seven at the court of Isabella; his demand; its rejection; his recall; his departure from Palos with three small vessels; his triumphant return after the discovery of America, admiral and governor; sent home in chains; his death, poor, unknown and forgotten. Contrast this with what has recently taken place at Palos. Last September (1892) the greatest war ships of the world from Spain, Italy, Germany, Great Britain and the United States, propelled by a power unknown to Columbus, escorted from the harbor of Palos three little ships, two without decks, fashioned after the ships of Columbus.

At the time of Columbus' death none to honor him; now all Europe and the new world unite in rendering him the greatest homage ever paid to man!